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ABSTRACT

The effectiveness of the Three Owls Reading Method was tested, using 53 children from a Head Start program. The Three Owls system combines sight, phonic, and linguistic reading methods with movement and touch modes of instruction. After a pretest for phonic letter recognition, the students were matched and assigned to one of two classes in a crossover design. Group Alpha received 12 five-minute sessions in the Three Owls system, while Group Beta completed five minutes of nonreading activity on the same days. Tests were completed immediately following and nine weeks after this initial instruction. The process then was reversed, giving instruction to the Beta class, and both groups were retested. Letter recognition ability did not vary as a function of age, gender, race, or residence among the pupils. After instruction with the Three Owls system, both groups were able to identify letters correctly by sound and semantic association. Although a steady loss of ability occurred between instruction and the last posttest, all the children still identified more than 20 associations nine weeks after instruction. These results support the study's hypotheses and demonstrate the effectiveness of the Three Owls Reading Method. (RL)

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TEACHING BEGINNING READING SOUNDS TO HEAD START YOUNGSTERS

CATHERINE VON HILSHEIMER

A thesis presented to the Faculty of the College
of Liberal Arts in partial fulfillment
of the degree of Master of Arts
Stetson University
April 1979

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by

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CHAPTER I

INTRODUCTION TO THE PROBLEM

Every year in the United States a ritual "wringing of the hands" occurs over reports that children are becoming ever poorer readers. The public schools, parents, TV, poor teacher training, not enough money, money poorly spent, all take turns shouldering the blame. Some experts claim that the problem is not as serious as it appears while others produce doomsday letters in the press; and some believe that reading is not all that important for school learning.[1] In spite of the annual ritual, Bleil is able to state that "there are virtually no data on effectiveness or validity offered with learning materials."[2]

Of the hundreds of reading systems now on the market one claims to bypass issues of student failure, money, teacher training and learning problems. It can be used as a beginning reading system or as a remedial tool with children of all ages, in groups or individually.

Such a discovery should not be ignored. This investigation was undertaken to find out whether the Three Owls Reading Method is a viable method for teaching beginning reading to young children.[3]

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1 Norman E. Silberberg and Margaret C. Silberberg, "The Bookless Curriculum," Journal of Learning Disabilities, II (1969), 302-7.

2 G. Bleil, "Evaluating Educational Materials," Journal of Learning Disabilities, VIII (1975), 12-19.

3 Hulda R. Clark, The Three Owls Reading Method, (Bloomington, Indiana: Special Educational Supplies, 1977).

The Statement of the Problem

The purpose of this investigation was to determine the extent to which Head Start children, taught in groups by the Three Owls Reading Method, would be able to recognize letter sounds and recall them after an instruction period of twelve days.

Definition of Terms

ACEPT is the acronym for "Assessing Children for Early Prescriptive Teaching", a developmental survey for ages four through seven. This standardized test has been used at Malloy Center for the past two years.

Association is the phrase which contains the sound the letter(s) represent in the Three Owls primer.

Head Start is an enrichment project funded by the federal government for deprived preschool children from predominantly lower socio-economic backgrounds.

Level I is the first level in the Three Owls Reading Method which teaches the sounds the letters of the alphabet and four consonant blends usually make.

Malloy Center is the name of the Head Start project referred to in this study, located at DeLeon Springs, Florida.

Primer refers to the Three Owls, the name of the first book of the Three Owls Reading Method which comprises Level I. It teaches twenty-five letters (Q is omitted) and four consonant blends.

Surprise is a positive reinforcer given to each child after every session with the investigator -- straws, colored pipe cleaners, gummed stars and stickers, balloons and inked stamps.

Three Owls Reading Method is a sight-phonics-linguistic reading method developed by Hulda R. Clark. In this study only Level I is used. Letters and consonant blends are presented in a primer which is taught in five minutes or less for twelve days. The lessons are fast-paced and the presentations vivid, allowing and encouraging movement and touch to enhance learning.

Delimitations

This study was limited to twelve days of instruction with the fifty-three youngsters enrolled at the Malloy Center Head Start Project in DeLeon Springs, Florida during the months of October--November, 1978, and January--February, 1979. It also included days for pretesting, posttesting and retesting. Instruction took place Monday through Thursday when the children were at the center and was limited to Level I of the Three Owls Reading Method.

Basic Assumptions

The study was based on the following assumptions:

1. Preschool children are capable of recognizing from the printed page symbols that can be translated into sounds and will be able to reproduce these sounds.

2. Young children can learn in small groups.

3. A moderate amount of movement and noise do not prevent or inhibit learning in small children.

4. Producing the letter association alone is a valid learned response.

5. Some children will produce both the association and the desired sound or the sound alone without being instructed to do so.

6. The Three Owls Method is the only formal instruction in reading that the children will receive.

7. The ACEPT developmental assessment is an adequate measure of school readiness for Head Start youngsters.[4]

Hypotheses

H-1. There will be no significant difference between the experimental (Alpha) and control (Beta) groups on a pretest.

H-2. There will be a significant difference in the number of sounds and associations recalled by the Alpha groups after twelve days of the Three Owls Reading instruction and the results of the pre-test scores.

H-3. There will be a significant difference between the number of sounds and associations recalled by the Alpha group after twelve days of instruction and the Beta group which will have had no instruction.

H-4. There will be a significant loss of recall by the Alpha group on a retest nine weeks after instruction.

H-5. There will be no significant difference on a second retest for the Beta group after twelve weeks of no instruction.

H-6. There will be a significant loss of recall in the Alpha group

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[4] Thomas D. Yawkey and Leslie Lewis, "ACEPT: Assessing Children for Early Prescriptive Teaching," (Oklahoma City, Oklahoma: Center for Educational Assessment, Division of Economy Company, Education Publishers, 1978).

between tests taken nine and sixteen weeks after instruction.

H-7. There will be a significant difference in recall of sounds and associations by the Beta experimental group after twelve days of the Three Owls Reading instruction and the results of their test after twelve weeks of no instruction.

H-8. There will be no significant difference between the Beta posttest and the Alpha posttest immediately after twelve days of Three Owls Reading instruction.

H-9. There will be a significant difference in recall between the Beta group posttest immediately after instruction and the Alpha group on a retest sixteen weeks after instruction.

H-10. There will be a significant loss of recall by the Alpha group between tests taken nine and twenty-five weeks after instruction.

H-11. There will be a significant loss of recall in the Beta group on a retest taken nine weeks after instruction.

H-12. There will be a significant difference in recall between the Beta group at nine weeks and the Alpha group at twenty-five weeks after instruction.

The Significance of the Problem

In this computerized age when men have walked on the moon, it seems strange that so many of our children are unable to read or read so poorly that remediation is a big business. The National Assessment of Educational Progress funded by HEW estimates that 13% of seventeen year olds are functionally illiterate.[5] Educational malpractice suits brought against school districts for failure to teach are familiar news.

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[5] National Center for Education Statistics, Digest of Education Statistics, (Washington: U.S. Government Printing Office, 1978), cited by Marc Leepson, "Competency Tests" in Editorial Research Reports, Vol. 11, no. 7, 1978.

Colleges all across the nation have found it necessary to set up remedial reading programs for in-coming freshmen, and the military has had to institute classes in reading to raise the reading skills of some recruits to a 6th grade level. The most current survey of reading materials in print indicates that there are 246 remedial reading books and series, nearly twice as many as basal readers.[6]

After almost 200 years of public school it seems impossible that the field of education has not produced one standard efficient method to teach the mechanics of reading which is successful with at least half our children, and another half dozen for special cases. Instead, hundreds of systems have been created. The El-Hi survey yielded 377 published basal reading programs and series from which to choose, with no solid data supporting the success of one over any other.[7]

The old controversy, sight vs. phonics begun in 1832, still persists and sometimes reading has actually become a political football, as in the 1950's when it was possible to identify one's political affiliations by whether one supported phonics or the sight method of teaching. The battle now rages in the publishing business--which company can sell the most attractive package--and educators are an easy mark, constantly in the market for material which will do the job.

An alarming concern today is that many public school students are receiving poor quality education from young teachers who were themselves poorly taught. In Dallas in the summer of 1978 more than half of 535 first-year classroom teachers failed a sixty-item math and verbal

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[6] El-Hi Textbooks in Print, 1978, (New York: R.R. Bowker Co., 1978.)

[7] Ibid.

abilities test designed for students thirteen years and older.[8] Several states have already instituted competency tests for students because of pressures arising from reports of declining achievement test scores. Teachers with already difficult jobs made even more difficult by PL 94-142[9] are being put on the line with "accountability" and "performance contracting", terms borrowed from industrial management to measure input and output. These tactics pressure teachers to produce, tighten college entrance requirements and threaten teacher tenure. Colleges cry for more money to improve teacher training but a look at past figures tells the sad but true tale of what effects more money has had on outcome. The National Center for Education Statistics reports that the percentage of our GNP expenditures on education have increased from 3.1% in 1929 to 7.7% in 1976; that $91 billion dollars was spent on public and private education in 1977-78. In spite of these large sums national academic achievement has been in a decline and even the most optimistic evaluators of educational statistics see only a slight improvement in minimal reading ability since the 'thirties.[10]

The demands of modern society require reading ability. Menial jobs are few and becoming fewer; competition is tough and those who

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8 Marc Leepson, "Competency Tests," in Editorial Research Reports, Vol. 11, No. 7 (August), 1978.

9 Education of All Handicapped Act of 1975; this public law opened the doors of the public schools to all types of problem learners who were formerly in special settings or kept at home.

10 Leepson, op. cit.

cannot read simply lose out. A large percentage of prisoners are non-readers and people who work with juvenile delinquents know that teaching them to read is the most effective "correction" there is.

It is time to look for answers to reading problems and illiteracy in places other than Uncle Sam's pocket, better teacher training programs, more remediation, higher teacher standards, more time. These sources have failed to produce consistently better readers in the past and will likely fail in the future.

There are other avenues to explore. It is possible that people outside the traditional educational schools of thought have looked at the problem from a different point of view and have created methods which are effective. A method which fits this description, the Three Owls Reading Method, was developed by Hulda R. Clark, a physiologist who constructed her system along lines of the physiology of learning. Her method has many advantages. It is easily applied, even by aides; it is entirely portable, versatile and can be used with individuals or groups. It is both a basal reading system and a remedial technique for any "reading ready" child. If it is truly effective this method would enable a teacher to spend more of her time engaging children in activities other than reading instruction.

Alternatives to "more training and more money" need to be explored. The Three Owls Reading Method is a good place to begin.

CHAPTER II

RELATED RESEARCH

Preschool Education

In 1939 Harold Skeels removed thirteen low IQ infants from an orphanage and placed them with institutionalized mentally retarded women as their foster care personnel.[1] A follow-up study twenty-one years later revealed that twelve of the thirteen were self-supporting while twelve controls from the same orphanage were institutionalized despite professional care.[2] Heber demonstrated that twenty-five four month old babies taken from high risk homes had a substantially higher IQ (mean 122) than controls (mean 90). Kirk reported on these and other influential studies indicating that early intervention has long-term effects, which led Sargent Shriver to press a bill for Head Start.[3]

Project Head Start was created in 1965 as part of the late President Johnson's War on Poverty program. Its purpose was to try to reduce or deflect the effects of poverty on preschool children by offering health, nutritional, social, educational and other services. How well this has been accomplished is a matter of heated controversy.

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1 Harold Skeels, Adult Status of Children with Contrasting Early Life Experiences, Child Development Monograph Series, Vol. 33, No. 3., The Society for Research in Child Development, 1966.

2 M.S. Crissey, "Mental Retardation: Past, Present and Future," American Psychologist, XXX, (August, 1975), 800-8.

3 Samuel A. Kirk, "General and Historical Rationale for Early Education of the Handicapped", in Norman E. Ellis and Lee Cross, eds., Planning Programs for Early Education of the Handicapped, (New York: Walker and Company, 1977), pp. 3-15.

In 1975 the Tampa Tribune editorialized that Head Start is ". . . one of the most durable--and in the opinion of most observers, generally successful--social programs to be undertaken by the federal government."[4]

In contrast, the authors of an earlier study (1968-69) made by the Westinghouse Learning Corporation and Ohio University had concluded that Head Start's long term effects are minimal, stating ". . .remediation of disadvantaged children is an area where straightforward answers and clear techniques are yet to be produced."[5] Reaction to the government funded Westinghouse study was strong. Many said that the goal of Head Start was not to raise IQs on tests but to help in social-family living, reading and math. The alarm was raised by others who were concerned that federal money was pouring into education without a trace.[6]

Disagreement over the purpose of government funded programs such as Head Start, Upward Bound and Title I projects has created criticism regarding their efficacy. One major study on Head Start concluded that evidence of its effectiveness is ambiguous because of conflicting aims of teachers and directors, the former emphasizing school readiness and language development, the latter stressing medical and nutri-

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4 "Head Start," Tampa Tribune Times, June 8, 1975, Sec. f., pp. 1-2.

5 "Head Start Pupils Found no Better off than Others." New York Times, April 14, 1969, Sec. c., pp. 1, 36.

6 James J. Gallagher, "Planning Programs for Children" in Ellis and Cross, op. cit., pp. 17-26.

tional interventions.[7]

More recently many favorable studies have been conducted on the effectiveness of Head Start and other preschool programs for the disadvantaged. A summary of the findings of twelve research groups which made fourteen longitudinal studies revealed benefits to children in three areas: 1) fewer were assigned to special education classes, 2) fewer were held back in school, and 3) on the Stanford Binet these children surpassed controls for from three to five years after the programs had ended.[8] The investigators concluded that a significant difference lasted through the primary grades because of a deliberate cognitive curriculum.[9]

Sally Ryan reports that preschool intervention has an immediate impact on IQ scores as measured by the Stanford Binet, Leiter International Performance Scale, the PPVT and the ITPA. She also found long-term IQ gains through second grade and significantly better achievement scores, social adjustment and academic progress among pre-

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7 Edward L. McDill, Mary S. McDill and J. Timothy Sprehe, Strategies for Success in Compensatory Education: An Appraisal of Evaluation Research, (Baltimore: Johns Hopkins, 1969), cited in George D. Spache, The Teaching of Reading (Bloomington, Indiana: Phi Delta Kappa, Inc., 1972), p. 101.

8 Shirley G. Moore, "The Persistence of Preschool Effects: A National Collaborative Study," Young Children, XXXIII (March, 1978), 65-71.

9 Education Commission of the States, The Persistence of Preschool Effects (Washington: Office of Human Development Services, U.S. Department of H.E.W., 1977).

school educated children than among controls.[10]

A ten year followup of 452 disadvantaged children in five different preschool programs showed long range benefits and significantly fewer had to be kept back or assigned to special classes than control.[11]

Urie Bronfenbrenner states that an early entry and longer period of enrollment in a preschool program did not result in greater or more enduring cognitive gains but that IQ gains were substantial.[12] After the first year, however, a decline was seen and by the third or fourth year IQ was back in the low 90's for the group studied. Like the fourteen longitudinal studies, Bronfenbrenner found that a cognitively structured curriculum produced better results than play-oriented programs.

Studies of preschool programs often show significant improvement in one or more measures taken. Predict-I, a Title I project, taught communication skills to four year old children who improved at the .05 level of significance over controls in cognitive ability, concept formation and language usage.[13] Another Title I project, CRIP (Criterion

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10 Sally Ryan, "Longitudinal Evaluations" in Sally Ryan, ed., A Report on Longitudinal Evaluations of Preschool Programs, Vol. I (Washington: U.S. Department of H.E. W., 1974), pp. 135-140.

11 "Influence of Preschooling Found to be Long-Lasting." Today's Child News Magazine, XXVI, (May, 1978), 1.

12 Urie Bronfenbrenner, "Is Early Intervention Effective?" in Urie Bronfenbrenner, A Report on Longitudinal Evaluations of Preschool Programs, Vol. II, (Washington: U.S. Department of H.E.W., 1974).

13 Office of Education, Title I ESEA: Educational Programs that Work (Washington: U.S. Department of H.E.W., 1978).

Reading Instruction Project) taught skills in cognitive, affective and psychomotor areas and all grades, K through three, met performance objectives except grade three on one measure.[14] But immediate gains as seen in the longitudinal studies often disappear as pointed out by Bronfenbrenner[15] and others.[16]

Nevertheless, many researchers place great emphasis on the importance of the early years. Jensen states that preschool learning is the foundation for future learning and that the preschool years are the most important of all.[17] Brunner says that the literature in child development is replete with indications that the preschool years are critical to healthy psychological development and are particularly important for the deprived.[18] Kirk, from his own experiments with mentally retarded three to five year olds, concluded that preschool intervention accelerates the rate of social and mental development.[19]

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14 Ibid. 15 Bronfenbrenner, op. cit.

16 William E. Blanton, Preschool Reading Instruction, PREP Report Series, No. 39 (Washington: National Center for Educational Communication, U.S. Department of H.E.W., 1972).

17 A.R. Jensen, "Learning in the Preschool Years," in W.W. Hartup and N.L. Smothergill, eds., The Young Child: Reviews of Research. (Washington: NAEC, 1967), cited in Ellis and Cross, op. cit., p. 109.

18 Catherine Brunner, "Preschool Experiences for the Disadvantaged," The Educationally Retarded and Disadvantaged, National Society for the Study of Education, Sixty-sixth Yearbook, (Chicago: University of Chicago Press, 1967), pp. 144-167.

19 Samuel A. Kirk, "The Education of Intelligence," The Slow Learning Child, XX (July, 1973), 69, cited in Ellis and Cross, op. cit., p. 7.

So many variables have been studied, but little is actually known about why some programs are effective and others are not. Some investigators pointed to teacher expectations of failure for disadvantaged children--the "self-fulfilling prophecy".[20] Spache said that substandard speech creates a negative attitude on the part of teachers.[21] Coleman pointed out the differences in educational facilities and staff and the inappropriateness of the school experience, materials and curriculum for the deprived.[22] Some researchers link social and economic factors with IQ decline and find that home and parental attitude is the most critical factor in whether a child will profit from early intervention and elementary school. Spache cited parental aspirations and involvement in the child's educational experiences as having a significant influence on school performance; more so than socioeconomic or cultural status, parental educational attainment, occupation or the intelligence of the child. He found that the passive response of a lower class mother was related to the intellectual performance of her child; a positive or negative attitude and style of teaching by the parent tends to effect school

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20 Robert Rosenthal and Lenore F. Jacobson, "Teacher Expectations for the Disadvantaged," Scientific American, CCXVIII (April, 1968), 19-23.

21 George D. Spache, "The Teaching of Reading to the Disadvantaged" in George D. Spache, op. cit. pp. 89-117.

22 James S. Coleman, Equality of Educational Opportunity (Washington: U.S. Department of H.E.W., 1966).

school achievement significantly.[23] It should be noted that one of the intended goals of Project Head Start is involvement of parents in the preschool experience of their children.

Readiness and I.Q.

The concept of readiness has been an issue in education since Pestalozzi (1749-1827). Although there were no formal measures of readiness in 1898, John Dewey suggested age eight as being a good time to start formal reading instruction in the schools; but by the early 1900's entering first grade at age six also meant beginning reading. Morphett and Washburne in the study of 1931 declared that the mental age of 6.5 was the prerequisite for reading success and its acceptance was unopposed.[24] Reading failure studies soon began to appear. Numerous studies linked reading achievement--or lack of it--to intelligence.[25] The National Society for the Study of Education kept abreast of the research and reported in 1928 in two volumes.[26,27]

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23 Spache, op. cit.

24 Mabel V. Morphett and Carleton Washburne, "When Should Children Begin to Read?" Elementary School Journal, XXXI (March, 1931), 496-503.

25 Dolores Durkin, Children Who Read Early, (New York: Teachers College Press, 1966), p.6.

26 Guy M. Whipple, ed., Nature and Nurture: Their Influence Upon Intelligence, National Society for the Study of Education, Twenty-Seventh Yearbook, Part I. (Bloomington, Ill: Public School Publishing Co., 1928).

27 _____, Nature and Nurture: Their Influence Upon Achievement, National Society for the Study of Education, Twenty-Seventh Yearbook, Part II. (Bloomington, Ill: Public School Publishing Co., 1928.

Early research drew a modest correlation between IQ and reading progress (r = .40-.60).[28] Edward L. Thorndike formulated the Laws of Readiness,[29] and in 1930 E.C. Deputy developed a formula for predicting reading achievement.[30] This and other tests created in the 1930's and '40's provided a basis for further studies which supported the relationship of reading achievement to intelligence. In 1931 Davidson demonstrated that three year olds who were bright learned to read better than older children in the same program. From 1934 to 1939 Arthur Gates made a comprehensive study of nearly all reading tests, surveys and measurements existing at that time, concluding that many had little or no predictive value but were widely recommended anyway. The focus of readiness was on mental ability, testing and maturity, ignoring instruction as a component in learning to read.[31]

More recently, Bloom has pointed out that intelligence develops with age, the most profound growth being between conception and four years, and that the stability of measurements taken also increase with age.[32] Examining the accomplished reader, Spache has pinpointed the

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28 "Reading Instruction: Research," The Encyclopedia of Education, VII (1971), 406-12.

29 "Edward L. Thorndike," The Encyclopedia of Education, IX (1971), 230-7.

30 "Readiness," Encyclopedia of Educational Research, (1961), 1081-6.

31 Durkin, op. cit., p. 8.

32 B. Bloom, Stability and Change in Human Characteristics (New York: John Wiley and Sons, Inc., 1964), cited in Ellis and Cross, op. cit., p. 88.

components necessary in reading readiness as visual skills, auditory factors, sex and age, and socio-economic factors. Intelligence is not mentioned.[33] Kenneth Goodman states that a child does not have to be intelligent to learn to read anymore than to learn language.[34] This is supported by Silberberg and Silberberg.[35] Many professionals believe, along with Alfred Binet, that intelligence can be educated and readiness stimulated by experience.[36] Murphy believes firmly in teaching readiness in the schools.[37]

Reading Outcome Studies

Searching the literature in reading outcome studies reveals contradictions, conflicts and a bewildering lack of conclusive research in spite of the fact that countless studies have been made and piles of data collected over the years. Perhaps the most comprehensive study ever to take place was the Cooperative Research Program. From 1964 to 1967 this project investigated primary reading instruction involving nearly 25,000 children across the country. The results are

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33 Spache, op. cit.

34 Kenneth S. Goodman, "Do You Have to be Smart to Read? Read to be Smart?" The Reading Teacher, XXVIII (April, 1975), 625-32.

35 Norman E. Silberberg and Margaret C. Silberberg. "Hyperlexia: the Other End of the Continuum," Journal of Special Education, V, (Fall, 1971), 233-242.

36 Samuel A. Kirk in Ellis and Cross, op. cit., p. 4; "Readiness," Encyclopedia of Educational Research, (1960), 1081-86.

37 Helen A. Murphy, An untitled talk given at Stetson University, DeLand, Florida, November 1, 1978.

reported by Bond and Dykstra.[36,37] In 1972 Blanton stated that little was known about formal preschool reading and that research was inconclusive regarding the effects of kindergarten reading experiences on readiness and achievement. He said there was scant evidence that children who learn to read before first grade will read better in later years and pointed to longitudinal studies as the most needed type of research in education.[38] Since Blanton's report the Consortium of Longitudinal Studies administered by Cornell University has seen improvements in reading and math as late as seventh grade in veterans of some early programs.[39] Hillerick charges that the biggest drawback to improved instruction is a lack of research on reading skills--what they are and how to teach them.[40] Most research indicates that a combination of instructional methods gives the best results and that the methods themselves differ less than the teachers using them.

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36 Guy L. Bond and Robert Dykstra, "The Cooperative Research Program in First-Grade Reading Instruction," Reading Research Quarterly, II (No. 4, 1967), 5-142, cited in "Reading Instruction: Research" The Encyclopedia of Education, VII, (1971), 406-12.

37 Robert Dykstra, "Summary of the Second-Grade Phase of the Cooperative Research Program in Primary Reading Instruction," Reading Research Quarterly, IV (No. 1, 1968), 49-70, cited in "Reading Instruction: Research," The Encyclopedia of Education, VII (1971), 406-12.

38 Blanton, op. cit.

39 Linda Asher, "Barometer Rising for Head Start," Psychology Today, XII (February, 1979), 98.

40 Robert L. Hillerick, "Accountability and the Teaching of Reading," Elementary English, LII (May, 1975), 681-7.

This strongly suggests that the teacher's role is critical in reading instruction.

Reading Methods

The methods most commonly used in schools today are the standard Basal Reader programs, language experience, linguistics, phonics and individualized reading instruction. New approaches are numerous. In his book, The Teaching of Reading, George Spache outlines the following: The Initial Teaching Alphabet (i.t.a.) which attempts to simplify sound-symbol relationships of words; the Ten Vowel Alphabet (Leo Davis); Fonetic English System; Unifon, which changes spellings toward phonetic pronunciation; and the Diacritical Marking System, designed to give pronunciation clues to basal systems. In addition to these are the analytical and synthetic phonics methods, Words in Color (Gattegno), Early Letter Naming, Lippincott Basic Reading Series, Montessori, Delacato, Neurological Impress and the audio-visual materials techniques.[41] Language and reading labs are also popular.[42] Each system has its advantages and faults as well as its supporters and critics.

The biggest new approach is psycholinguistics. In his book, Psycholinguistics and Reading, Frank Smith recapitulates the attitudes of many: on the one hand that reading is a complete mystery, and on the other that it is a simple process of decoding.[43] He states that read-

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41 Spache, op. cit.

42 "A New Approach to Reading the Kids Love." Daytona Beach Morning Journal, October 9, 1978, Sec. B., p. 6.

43 Frank Smith, Psycholinguistics and Reading, (New York: Holt, Rinehart and Winston, Inc., 1973).

ing research is confused and inconclusive and that the education industry, dependent on and eager for new material, looks to technology to solve the "problem" of reading. In Understanding Reading his closing comments are perhaps the best guideline available at present as a response to all the years of reading research:

> . . .teachers of reading should [not] throw away their instructional procedures, or their years of experience, and start all over again. . . .no theoretical analysis of the reading process can dictate an instructional method; pedagogy always has to be tested in the classroom. (44)

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44 Frank Smith, Understanding Reading, (New York: Holt, Rinehart and Winston, Inc., 1971), p. 230.

CHAPTER III

PROCEDURES IN THE COLLECTION AND TREATMENT OF DATA

Sub-Problems

The method used in this study addressed the following problems:

1. Describing the population and environment of the "school";

2. Equating the control and experimental groups according to age, race, sex and living location;

3. Assessing existing reading skills of members of the experimental and control groups;

4. Describing the instructional procedures for both experimental and control groups;

5. Administering a post test to the experimental group to determine the degree of learning which has taken place;

6. Re-testing both experimental and control groups after nine weeks of no instruction to determine whether learning has been retained;

7. Crossing the experimental with the control group and administering the instructional procedures to the new experimental group;

8. Administering a post test to the new experimental group to determine the degree of learning which has taken place, and retesting the original experimental group to determine whether learning has been retained after sixteen weeks of no instruction;

9. Re-testing the new experimental group after nine weeks of no instruction and the original experimental group after twenty-five weeks

of no instruction, to determine whether learning has been retained;

10. Analyzing statistically the results of Sub-Problems 3,5,6, 8 and 9, and the teacher-administered ACEPT survey.

Weeks of Lapse			0		9		16		25
	(pretest)		(posttest)	*	(retest)		(retest)	*	(retest)
ALPHA	0-1	X	0-3	*	0-5		0-7	*	0-9
				*				*	
				2 months				2 months	
				*				*	
BETA	0-2		0-4	*	0-6	X	0-8	*	0-10
	(pretest)		(retest)	*	(retest)		(posttest)	*	(retest)
Weeks of Lapse			0		0		0		9

Figure 1: Test/Retest Schedule for Study Design

Sub-Problem 1: The population selected for this study was all fifty-three youngsters enrolled in the Head Start project at Malloy Center, DeLeon Springs, Florida, for the 1978-79 school year. At the beginning of the study their ages ranged from forty-five to fifty-seven months; eleven were not yet four years old and none were five.

The young ages of the children presented certain difficulties to the study design. Some children did not have all the speech sounds, spoke too softly to be understood, had an accent this investigator was unaccustomed to, or had unusual names with peculiar pronunciations. Many did not know their last names. A master rota was used as an

attendance list with the hope that the children present were in their proper groups. Some contamination did occur, however. After the first day of instruction two children were switched from Alpha to Beta and vice versa to create a closer match between the experimental and control groups; and although efforts were made to keep the groups separate a child would sometimes appear in the wrong group. On one occasion a control group accidentally received the reading instruction.

Several of the children were hyperactive and almost all were naturally active and inquisitive. Their immaturity made it somewhat appropriate for them to tug and pull, walk about the room and examine the artifacts, as well as to jump and shout their responses. Their attention spans were very short and even during a five minute instruction period that was lively, several could not attend. There was no attempt to command schoolroom order from them but when the distraction or noise level became too high the offenders were firmly told to be quiet or return to class.

The room assigned for the study was a large rectangular, multipurpose room used primarily for community meetings. A pingpong table in the center was a favorite distraction for the more active children; the pooltable near the door doubled as a table, and chairs lined the walls. A green chalkboard spanned one end of the room and four bulletin boards displayed photographs of Head Start activities, children and DeLeon Springs real estate, all of which drew much interest from certain children. By the time the cross-over portion of the study was conducted the room had been cleared of the two large tables leaving a less cluttered, more spacious environment.

The school schedule involved moving children about in shifts. Those who arrived at the center by 8:30 AM had breakfast there and left by 2:30 PM. Those who arrived at 10:00 left at 3:30. They were all bussed to a nearby elementary school for lunch in two shifts. They attended school Monday through Thursday; the school calendar coincided with the public schools. The children were divided into three classrooms based primarily on where they lived so that bus schedules could be accommodated. Each of three teachers had seventeen or eighteen children and an aid whenever one was available.

The enrichment program at Malloy Head Start project focused on preparing the children for kindergarten. They were taught social amenities, personal hygiene, social conduct; they learned their full names, where they lived, colors, shapes and how to count. They were directed in gross and fine motor activities, auditory and visual memory tasks, sequencing, perceptual skills, given visual and auditory screenings and their developmental growth was assessed. The teaching of beginning reading was not a part of the curriculum and was one major reason for the choice of these youngsters as a population for this study.

In addition to their regular schedule there were field trips, visitors, parties and special holiday activities. On days when there was a special activity the instruction period was cancelled; special events for these children and reading instruction were incompatible.

Sub-Problem 2: The fifty-three children in this study were divided into two groups--Alpha (experimental) and Beta (control). The groups were matched for age, sex, race and living location (urban or rural). There were two Spanish children; one was placed as White,

the other as Black. Fifty months was the median age and also the mode.

TABLE I

DEMOGRAPHIC DESCRIPTION OF THE RESEARCH POPULATION

PART ONE: ALPHA-EXPERIMENTAL

N = 53	ALPHA (Experimental)	BETA (Control)	Total	% of Population
Over 50 Months	13	14	27	51%
Under 50 Months	13	13	26	49%
Male	12	13	25	47%
Female	14	14	28	53%
Black	18	18	36	68%
White	8	9	17	32%
Urban	15	15	30	57%
Rural	11	12	23	43%
n =	26	27		

When the cross-over portion of the study (Beta-Experimental) was conducted four students from the Beta group had been withdrawn and one from Alpha. All the children were four months older when the Beta posttest was administered. These changes altered the demographic data as shown in TABLE II.

TABLE II

DEMOGRAPHIC DESCRIPTION OF THE RESEARCH POPULATION

PART TWO: BETA-EXPERIMENTAL

N = 48	ALPHA (Control)	BETA (Experimental)	Total	% of Population
Over 54 Months	12	13	25	52%
Under 54 Months	13	10	23	48%
Male	12	10	22	46%
Female	13	13	26	54%
Black	17	16	33	69%
White	8	7	15	31%
Urban	14	13	27	56%
Rural	11	10	21	44%
n =	25	23		

Alpha and Beta were further divided into five experimental and five control groups of five or six children each, based on the Head Start classroom to which they were assigned. This enabled their teachers to assemble them more conveniently for instruction periods.

Sub-Problem 3: The existing letter recognition skills of the Alpha and Beta groups were measured by asking them to identify seven vowel sounds from the Three Owls Reading Method (i, a, ee, oo, u, e and o, in that order) which had been drawn on index cards, one to a

card, and presented to all ten groups with the words, "Who can tell me what this is?" or "What is this?" A tape recording was made of each group.

Tested by questioning children in two of ten groups produced seven letter names, in two groups produced one letter name and in six groups displayed no letter recognition.

Sub-Problem 4: The five Alpha (experimental) groups received the Three Owls Reading Method instruction, Level I. The material contained in the primer was presented one page at a time, one item per page. The children stood side by side facing the blank chalkboard in front of the investigator. The primer was held at the children's eye level, about twenty inches away. The letter being taught was exposed, the other page was covered. The association created to teach the letter sound was dramatized, traced with a finger, pointed to or otherwise emphasized. The children were encouraged to imitate but not told to do so; they were told to say the letter sound at the end of the association. The Short Guide to Modern Reading was followed in these instruction periods.[1] The entire primer was presented to each experimental group in about five minutes. The children were always told to say the letter sound. The associations were presented rapidly, vividly and with as much movement and touch as could be incorporated. At the conclusion of all lessons each child chose a "sur-

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[1] Prudence Seidel, Short Guide to Modern Reading, (Orange City, Florida: Humanitas Curriculum, 1968). The Three Owls was originally published as "Modern Reading". The short Guide has a few differently worded associations.

prise".

The five control groups received approximately the same amount of time with the investigator as the experimental groups. The activities selected were songs with motions, finger plays, story reading and telling and tape recordings of the children. At the conclusion of the activity each child chose his "surprise" and returned to class.

Grouping the experimental and control populations into small instructional clusters based on which class they attended made each group mixed as to age, race, sex, behavior and "readiness".

Duration of instruction was twelve days, the minimum length of time suggested by the author of the Three Owls. A longer period would have been acceptable for some but inappropriate for many others.

Sub-Problem 5: After twelve days of instruction a posttest was administered to the Alpha (experimental) group and a shortened version to the Beta (control) group. The test for Alpha consisted of each item in the primer and was administered individually. Each association recalled or sound produced was given one point. The sum of these points was the Total Score.

The test for Beta consisted of the first ten pages of the primer. The children were tested individually and asked "What does this look like?" Any response was recorded although only a correct association or sound was scored. This was done to replicate as closely as possible the experience of the Alpha groups. Only the first ten pages were used to avoid putting the children in a failure mode.

Because of the relatively small number of subjects and the liklihood of skew, both Student's t test and Wilcoxon's Sum of Ranks test

were used to determine significance. Hollander and Wolfe's book on statistical methods with nonparametric data was consulted for the appropriate treatment.[2]

Sub-Problem 6: After nine weeks of no instruction the Alpha (experimental) and Beta (control) groups were retested to determine, in the case of the experimentals, how much learning had been retained. Both groups received the same form of the test they had before. Student's t and Wilcoxon's Sum of Ranks tests were applied to determine significance at the .05 level or better.

Sub-Problem 7: The Alpha experimental group was crossed with the Beta control group. Beta received the Three Owls Reading Method administered just as to Alpha but with the associations given in the Teacher's Guide.[3] This affected only seven letters but it was thought that the slightly different wording might enhance learning the association. The Alpha group (controls) received no instruction and no five minute activity to avoid contamination by the investigator.

Sub-Problem 8: After twelve days of instruction a posttest consisting of the entire primer was administered individually to the Beta (experimental) group. Alpha received the same test as a retest. The manner of recording all scores was the same as for the Alpha posttest.

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[2] Myles Hollander and Douglas Wolfe, Nonparametric Statistical Methods, (New York: John Wiley and Sons, 1973).

[3] Hulda R. Clark, The Three Owls Reading Method: Teacher's Guide, (Bloomington, Indiana: MacCallum Publishing House, 1967).

Student's t and Wilcoxon's Sum of Ranks tests were applied.

Sub-Problem 9: After nine weeks of no instruction for Beta and a lapse of twenty-five weeks for Alpha, both groups were retested, each child individually. Data was scored and treated as in Sub-Problem 8.

Sub-Problem 10: The data collected from Sub-Problems 3,5,6, 8 and 9 were subjected to Fisher's Analysis of Variance, Kruskal and Wallis' Analysis of Variance and the Friedman test, to determine significance at the .05 level or better. To isolate differences between groups when the ANOVA tests showed significant differences among the groups, Dunn's Test and Sheffe's test were used. A contingency table was constructed for the entire array of data, making a Chi Square test of the variation of high and low scores.

CHAPTER IV

RESULTS

Organization of the Data

The data were consolidated on individual dittoed IBM cards for each pupil. The cards listed name, teacher, sex, race, living area, age and Alpha/Beta research group; test names, months of age when each test was taken, test data, number of days of instruction attended, weeks since instruction ended, number of associations recalled, number of correct associations plus phonic associations, total score; ACEPT total score, ACEPT "read" subscore and student number.[1] Alpha cards were posted in green ink, Beta in red.

Not all the data collected were used in the analyses. The breakdown of the total scores on post and retests were omitted because placement on a few items was arbitrary. The ACEPT Read subscore showed only a small variation and it too was omitted.

The data were recorded on a magnetic disk and processed by a Z-80 micro-computer. Fisher's "exact" method was used to estimate missing values in the Two Way Layout. All probabilities reported are two-tailed.

Verification of Balanced Assignment

In order to verify the balance of the distribution of children,

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[1] ACEPT is a 150 item developmental assessment administered individually. Test results are analyzed by computer are reported to the teachers in terms of what skills each child lacks; therefore there is an inverse relationship between a high ACEPT score and a child's maturity. Twenty-six of the 150 items comprise the "Read" score which are skills thought to be nessary to learning the Three Owls.

assignment to Alpha and Beta were compared in terms of gender, race, living area and Head Start teacher. Chi Square was run and TABLE III displays the results.

TABLE III

CONTINGENCY TABLES

	Male	Female
Alpha	12	14
Beta	11	13

X^2, 1 = 0.0, n.s.

	White	Black
Alpha	8	17
Beta	7	18

X^2, 1 = 0.0, n.s.

	Urban	Rural
Alpha	11	14
Beta	11	14

X^2, 2 = .07, n.s.

	Alpha	Beta
G.	10	8
L.	5	9
D.	10	8

X^2, 2 = 1.67, n.s.

The Chi Square values for all categories were trivial, verifying the matched distribution of children in Alpha and Beta.

As in most research with human beings there is some loss in numbers. Because of attrition and absences some tables do not have the full number of students reported in the demographic descriptions on pages 25 and 26.

ACEPT

The total scores on the ACEPT test were compared. Alpha and Beta showed no difference in ability but the range in ages (twelve months) did correlate negatively indicating a slight but significant ($p = .05$) influence of a few months age on the ACEPT. The value for Kendall's tau was -.27 for Alpha, and -.31 for Beta pupils ($p = .05$).

Kendall's tau correlations on test scores appear in TABLE XI and TABLE XII on page 39. ACEPT scores were not significantly associated with ability to reproduce the semantic and phonic associations for the Three Owls primer. These data also verify the matched assignment of pupils to Alpha and Beta.

Comparisons of Alpha and Beta at Similar Stages

Hypothesis 1 states that there will be no significant difference between the Alpha and Beta groups on a pretest. Since no child was able to produce the letter association found in the Three Owls primer or the letter sound, the first hypothesis was accepted.

Hypothesis 5 states that on a second retest before instruction Beta groups would show no significant difference from their first test. Because of contamination (see Sub-Problem 1, page 23) nine children knew from one to five associations. The results of the two tests given to Beta before instruction are shown in TABLE IV.

TABLE IV

CONTINGENCY TABLE

	<1 Correct Responses	0> Correct Responses
First Test	15	9
Second Test	16	4

X^2, 1 = 1.61, n.s.

Four children were absent for the second test. Fewer pupils made correct responses but only one of the original responders was missing for the second test. The trivial difference was not on account of absence of better pupils and Hypothesis 5 was accepted: the Beta group

did not learn associations without instruction.

Hypothesis 8 states that there will be no significant differences between Alpha and Beta on a posttest immediately following Three Owls instruction. The data were treated by Student's t and Wilcoxon's Sum of Ranks statistics. Results are displayed in TABLE V.

TABLE V

ALPHA TESTS vs BETA TESTS

Test (Alpha vs Beta)	Student's t =	Wilcoxon's z =	N =
Posttest	.53	1.52	48
Retest # 1	.45	.94	42
ACEPT Total	.33	1.56	49

These results were not significant at the .05 level or better, showing little difference between Alpha and Beta on the tests. Hypothesis 8 was therefore accepted.

Effects of Time on Test Scores

Hypotheses 4,6 and 10 are all statements that Alpha groups will show a significant loss of recall on retests, nine, sixteen and twenty-five weeks after instruction. Hypothesis 11 states that there will be a significant loss of recall by the Beta groups nine weeks after instruction. The data were treated by the t test, Wilcoxon's, and the Sign test for paired data as well as a One Way ANOVA, both Fisher's and Kruskal and Wallis'. The paired data results appear in TABLE VI.

TABLE VI

COMPARISONS OF TESTS WITH PAIRED DATA

Alpha Posttest vs:						Beta Posttest vs:	
Retest #1		Retest #2		Retest #3		Retest #1	
t, 19	= 3.37	t, 24	= 4.11	t, 24	= 4.30	t, 20	= 4.01
z (Sign test)	= 4.02	z	= 3.49	z	= 4.71	z	= 3.4
Z (Wilcoxon)	= 3.92	z	= 2.44	z	= 4.37	z	= 4.02
p	=<.001	p	=<.02	p	=<.001	p	=<.001

The results of Fisher's and Kruskal and Wallis' One Way ANOVAs were: F, 5, 134 = 10.31; p =<001

H, 5 = 39.4566

These statistics all show a significant loss of recall on subsequent tests after instruction. Hypotheses 4,6,10 and 11 were therefore accepted.

Hypotheses 9 and 12 state that there will be a significant difference between the Beta Posttest and Alpha Retest #2, and Beta Retest #1 and Alpha Retest #3. When the Beta Posttest was compared to the Alpha Retest #2 the results were: Student's t = 1.24; Wilcoxon's z = 3.37 (p = <.001). Since Beta's Posttest mean was greater than Alpha's Posttest mean and the standard deviation smaller than Alpha's, then the differences between Beta's Posttest and Alpha's Retests #2 and #3 are also significant. Inspection of the means and results of the One Way ANOVAs show that Beta Retest #1 and Alpha Retest #3 are significantly different. Figure 2 displays the comparisons of all tests after instruction by mean and standard deviation; TABLE VII provides the figures.

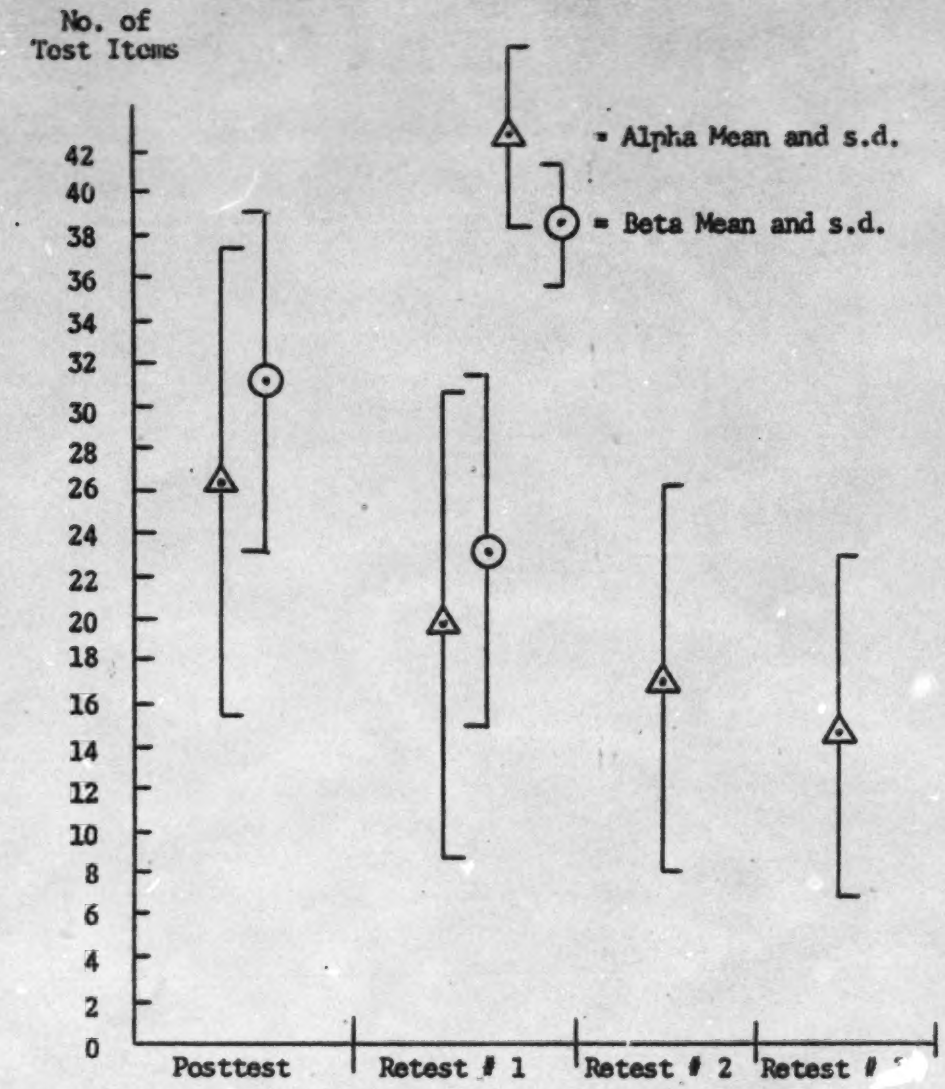

Figure 2:

Comparison of Alpha and Beta After Three Owls Instruction

TABLE VII

MEANS AND STANDARD DEVIATIONS ON THREE OWLS TESTS

	BETA		ALPHA			
	Posttest	Retest #1	Posttest	Retest #1	Retest #2	Retest #3
X =	31.18	23.27	26.46	19.95	17.44	14.76
s.d. =	8.12	8.21	10.84	10.47	8.75	8.09
N =	22	22	26	20	25	25

The results of all these comparisons show significance at better than a .01 level; there was a significant loss of recall on all tests after posttests. Hypotheses 4,6,9,10,11 and 12 were accepted.

Comparison of Instruction versus No Instruction

Hypotheses 2,3, and 7 deal with test scores before and after instruction. To examine the differences contingency tables VIII, IX and X were constructed and a Chi Square run on the data.

Alpha Before/Alpha After

TABLE VIII

ALPHA PRETEST vs ALPHA POSTTEST

	<1 Correct Response	0> Correct Response
Alpha Pretest	26	0
Alpha Posttest	0	26

$X^2 = 52$; $p = <.001$

No children knew any of the associations before instruction; all knew some after instruction.

Beta Before/Beta After

After Alpha had the Three Owls instruction both groups were tested again. Because of contamination nine pupils in Beta knew from one to five associations. Contingency Table IX shows the data.

TABLE IX

BETA PRETEST vs ALPHA POSTTEST

	<1 Correct Response	0> Correct Response
Beta Pretest	15	9
Alpha Posttest	0	26

$X^2 = 23.21$; $p = .001$

A comparison of two Beta tests taken before instruction indicated that there was no significant difference between them. This data is reported under "Comparison of Alpha and Beta at Similar Stages". The second Beta pretest with the Alpha Posttest is shown in TABLE X.

TABLE X

BETA PRETEST # 2 vs ALPHA POSTTEST

	<1 Correct Response	0> Correct Response	
Beta Pretest #2	18	4	$X^2 = 31.89$; $p < .001$
Alpha Posttest	0	26	

Fewer Beta pupils responded correctly on their second test before instruction, and the difference between their preinstruction ability and Alpha pupil's post instruction ability was significantly less on both tests.

These comparisons support Hypotheses 2,3, and 7 by showing that Three Owls instruction makes a significant difference in pre and post test scores.

Reliability of the Tests of Letter Associations

TABLES XI and XII display the two matrices of Kendall's tau for the correlation of the posttests and retests, as well as age in months and the ACEPT Total scores.

The tests correlated highly, ranging from .67 to .94 and the probabilities for these correlations were all well below .001.

The use of the ACEPT was only moderately supported, as its predictive value ranged from -.25 to-.48; these are significant but not strong associations.

TABLE XI

KENDALL'S TAU CORRELATIONS OF AGE AND TEST SCORES: ALPHA

	Alpha Age	Alpha Post	Alpha Re #1	Alpha Re #2	Alpha Re #3	Alpha ACEPT
Alpha Age		.18*	.22	.11	.14	-.27
		1.26**	1.38	.75	.94	1.96
Alpha Post			.73	.67	.68	-.46
			4.48	4.71	4.66	3.28
Alpha Re#1				.78	.85	-.48
				4.66	4.96	2.99
Alpha Re #2					.78	-.45
					5.31	3.13
Alpha Re #3						-.46
						3.17
Alpha ACEPT						

TABLE XII

KENDALL's TAU CORRELATIONS OF AGE AND TEST SCORES: BETA

	Beta Age	Beta Post	Beta Re #1	Beta ACEPT
Beta Age		.13	.24	-.31
		.87	1.56	2.09
Beta Post			.71	-.39
			4.47	2.27
Beta Re #1				-.25
				1.57
Beta ACEPT				

For z =	, p =
1.96	.05
2.58	.01
3.27	.001

* Tau

** z score

Influences Other Than the Three Owls Method

An interesting question was raised by the inclusion of demographic information with the test scores. In order to assess any influence of gender, race or residence on the ability to learn the Three Owls primer, all posttest and ACEPT total scores were organized in columns for these categories and compared. Student's t and Wilcoxon's Sum of Ranks tests were made. The values are displayed in TABLE XIII.

TABLE XIII

DEMOGRAPHIC DATA COMPARED TO TEST SCORES

Test Name	Comparing	Student's t =	Wilcoxon's z =	N =
Posttest:	Male/Female	.04	.12	44
	White/Black	.15	.86	44
	Urban/Rural	.06	1.56	44
ACEPT Total:	Male/Female	.61	1.76	46
	White/Black	.14	.46	46
	Urban/Rural	.34	1.15	46

Values of z did not reach significance in any category indicating that these conditions had no important effect on learning and maturity.

The possibility of teacher (classroom) assignment having an effect on learning the Three Owls was tested by Two Way Anova, both Fisher's and Friedman's.

All test scores after instruction for both groups were organized by experimental group and by teacher assignment. Fisher's Two Way ANOVA confirmed that the effect of time on test scores was significant ($F, 5, 122 = 8.88$; $p = .001$). For the effect of teacher assignment F was also significant ($F, 2, 122 = 3.64$; $p = .05$). The Friedman Two Way Layout ANOVA gave a Chi Square value of 63.07 (5 d.f.; $p = .001$) for effect of

time, and 6.54 (2 d.f.; p = .05) for the effect of teacher assignment.

When the teacher data was inspected it revealed that the pupils from one class (G's) had slightly lower scores on all tests than the pupils from the other two classes (who were not consistently different). On each of six tests (Alpha Posttest and Retests 1,2,3 and Beta Posttest and Retest 1) G's students had a lower mean score and mean rank score. By chance G's pupils would be lowest in two of six tests. The binomial table indicates that with one-third likelihood of happening six of six lowest means would occur less than twice in a thousand trials.

Appendix A, Post Instruction Scores and ACEPT by Teacher, displays the statistics for test results by teacher. As inspection of this data indicates the teacher effect should not be taken too seriously. The greatest difference in means (viz. 6.53) is between the pupils of G. and L. in the Alpha Posttest; Scheffe's Multiple Comparison yields the insignificant value for F (17,122) of .44 for this observation. On the same data Dunn's Multiple Comparison requires a difference of 4.53 in mean ranks between the two groups for p to reach significance at .05; the observed difference is 3.32.

The consensus of observers, including the three teachers, was that the pupils assigned to G. were less manageable, and more immature than the other children; the effect suggested by this data was most likely an artifact of selection rather than teacher competence.

The ACEPT scores, organized by teacher, gave a small, insignificantly higher rating (lower scores) to the pupils from a second teacher, L.; a third teacher, D., had pupils whose ratings were slightly lower than those for pupils from G.'s class: F, 2,23 = 1.43, Kruskal and Wallis X^2 = 2.34 (p = .40) for Alpha children; F, 2,20 = 2.16; Kruskal and Wallis X^2 = 3.92 (p = .20), and the combined probability is .04.

This data somewhat supports the subjective conclusions of observers although it appears that L.'s fifteen pupils were the most competent on the ACEPT; while G. (whose children were lowest on tests after instruction) and D. (whose pupils did about as well on tests after instruction) had children who were equally poor on the ACEPT.

Test Score Frequency

Student's t and Wilcoxon's Sum of Ranks detected no significant differences between Alpha and Beta on the two tests after instruction although the Posttest nears significance ($z = 1.52$), in spite of the fact that Beta children were four months older when instructed and tested than the Alpha children had been. The differences in the distribution of test scores are displayed in Figures 3 through 8.

Distribution of Test Score Frequency

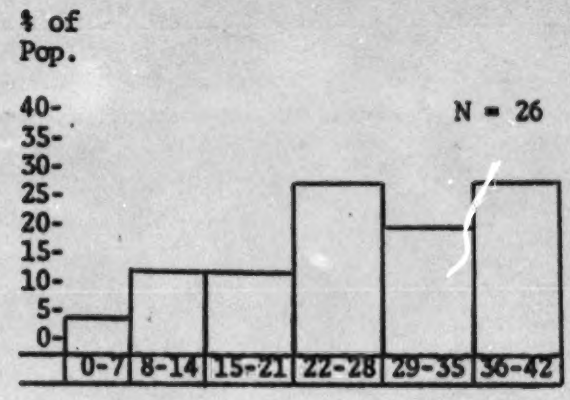

Figure 3. Alpha Posttest
45 - 57 Months

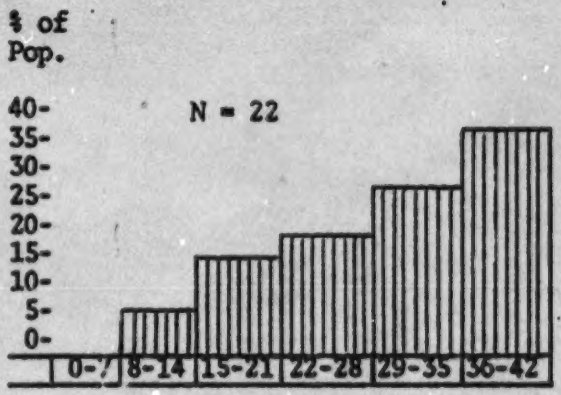

Figure 4. Beta Posttest
49 - 61 Months

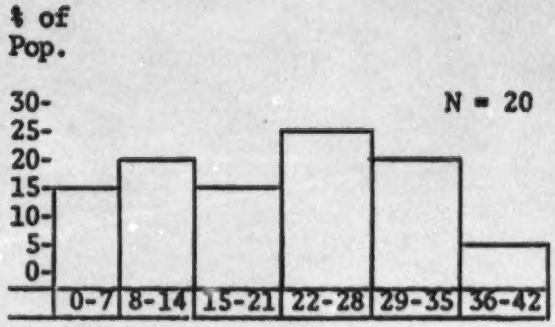

Figure 5. Alpha Retest #1
47 - 59 Months

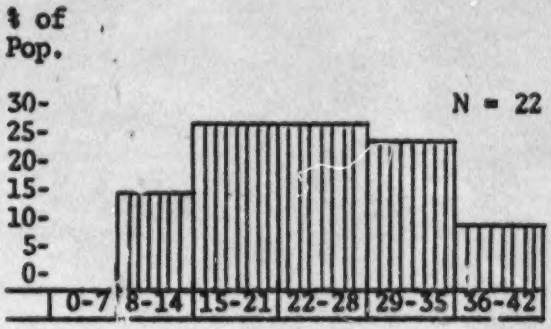

Figure 6. Beta Retest #1
51 - 63 Months

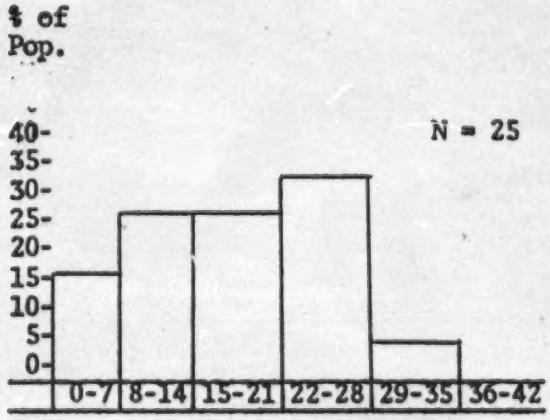

Figure 7. Alpha Retest #2
49 - 61 Months

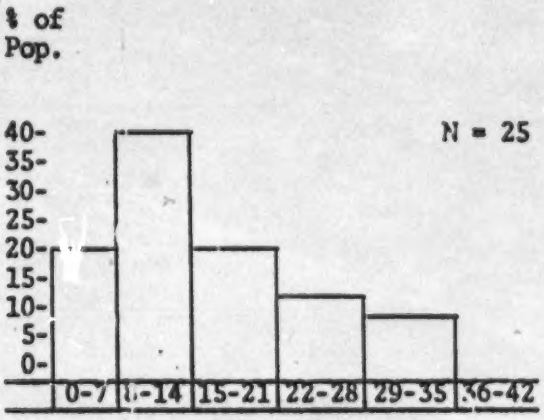

Figure 8. Alpha Retest #3
51 - 63 Months

Summary of Results

The statistical treatment of the data found in this study verified the balanced assignment of pupils to experimental and control groups. Race, residence, gender and classroom assignment were not different between the groups and their ability measured by ACEPT scores was similar.

Before either group had been instructed none of the pupils were able to identify the letters used in The Three Owls; only a few of the control group children were able to do so on two tests given after the experimental group had been instructed. After The Three Owls both groups of children were able to identify letters correctly by sound and semantic association. Eighty-four per cent of the Alpha group identified at least sixteen of forty-two associations correctly and an equal number of Beta children recognized at least twenty-four.

After reading instruction ended there was a steady loss of ability to recall the associations; but even after nine weeks the Beta children did as well as the Alpha pupils did on their Posttest and half the Alpha children still identified more than twenty associations correctly.

The ability of the ACEPT scores to predict reading ability was moderate; however, the correlations among the tests of letter recognition after instruction were strong and indicated significant reliability for the method.

Letter recognition after exposure to The Three Owls instruction did not seem to be influenced by race, gender, age or residence; there was a small and significant ($p = .05$) influence on test scores by teacher

assignment. There was some evidence that the class whose pupils were consistently low in all six tests of letter recognition were more difficult and less mature. ACEPT scores partially supported this consensus.

The results support the hypotheses stated in this study and demonstrate thatThe Three Owls Reading Method establishes reliable letter sound associations in Head Start children which decline over a period of twenty-five weeks.

CHAPTER V

EVALUATION

Summary

This study was designed to determine if the Three Owls Reading Method by Hulda Clark teaches prereading skills to nonreaders. While an ideal population would have been second grade nonreading pupils, the practical problems of recruiting an experimental population led to a study of Head Start youngsters whose ages ranged from forty-five to fifty-seven months. Clark recommends a minimum of twelve days of teaching sessions and this study used the minimum instruction period. It was conducted during the 1978-79 school year in DeLeon Springs, Florida.

Fifty-three children were matched by race, gender, residence in urban or rural areas and age, and assigned to one of two groups, Alpha or Beta. Three Owls reading instruction, Level I, was given to the Alpha pupils in small groups of five or six assigned for their Head Start teachers' convenience. Alpha was compared to Beta and to itself as control.

The investigator taught the Alpha children for five minutes for twelve days. The Beta groups spent five minutes with the investigator on the same days in nonreading activities. At the end of Alpha instruction the Alpha groups were tested to see if they knew the semantic and phonetic associations for forty-two letters and letter combinations in the Three Owls primer. The Beta groups were tested on the first ten

items in the primer. The children were not given any further instruction and after nine weeks the investigator tested all children again on the same tests as before.

Three months after the Alpha pupils instruction began, the Beta groups were given the same Three Owls instruction. Beta was compared to Alpha and itself as control. The Alpha children did not have a session with the investigator while Beta pupils were taught. At the end of the twelve days Beta was given its first test after instruction on all forty-two items in the primer and Alpha was retested. Nine weeks later a final test was given to all of the children. The lapse of time between instruction and tests for Alpha was nine, sixteen and twenty-five weeks; for Beta, nine weeks.

Conclusions

Analysis of the data supported all of the twelve hypotheses. These stated that 1) there would be a significant difference in learning between those Head Start youngsters instructed in the Three Owls Method and those not instructed; and 2) that nine, sixteen and twenty-five weeks following the last day of instruction there would be a significant reduction in correct responses.

The study demonstrated that the Three Owls primer can be used to instruct young children in the basic recognition of letters and the sounds with thich they are associated. Test scores show that learning by this method persists over twenty-five weeks after only sixty minutes total instruction to very young children in active groups in an open setting. Use of the Three Owls Reading Method is supported by the findings of this study.

Recommendations for Further Study

Limitations

One obvious limitation of this project was that because of the population selected only level I was examined. Some of the children were eager to learn, enjoyed the sessions and on tests recalled a large number of items. Other children found the instruction too long and were not interested, although they too seemed to enjoy being at the lesson. If time and circumstances had permitted, those children who did well could have been grouped together for further instruction; time would not have to be limited to twelve days; the primer and subsequent books would not have to be presented at one sitting and groups could be smaller than five and six children.

It would be interesting to see the effect on retest scores if incorrect responses were corrected on the test, thus giving an extra lesson.

It would also be interesting to carry out the Beta groups' retests to sixteen and twenty-five weeks after instruction for more comparisons; and a follow-up study of all of the children to test for lingering effect of the Three Owls would be ideal.

Older nonreaders would be a better population to research the effectiveness of the Three Owls Method. If a similar study is undertaken in the future this should be a main consideration. An older population would allow the method to be examined in its entirety which, from its success with the Head Start children, is advisable.

Observations

The Three Owls Reading Method was designed to trigger an immediate single-sound response to a printed symbol. In order for this to be accomplished without confusing the learner it is necessary that no other sound associations, such as letter naming, or other methods be taught at the same time. This meant that the population selected for this study could receive no other reading instruction. After several interviews with interested principals and teachers it became clear that, however badly needed, Three Owls Reading Method research and regular public school education were incompatible. From nine interviews two possible populations were found: a self-contained emotionally handicapped class in a public school, and a preschool. Neither was ideal. The EH class was rejected because of the limited number of students and the diversity of their problems, although they were old enough to be reading. Head Start was accepted as a preschool although the children were too young for ideal response. The fact that there were many students all in one place was one attraction and the director and teachers were receptive to the project. The deciding factor, however, was that the teachers were able to confirm that these children would receive no reading instruction other than their five minutes of The Three Owls.

Using these children presented some problems. Because they were so young groups had to be small and the research design had to be altered. It was evident that many would be too immature to tolerate much instruction so duration was limited to twelve days and only the first level was taught.

It was decided that the primer alone would be sufficient to test the teaching method at the first level of The Three Owls. Asking teachers

to administer a readiness test or to contribute their time to this research project was rejected as impracticable.

Another difficulty was choosing appropriate reinforcers as suggested by Dr. Clark. Since there were fifty-three children each receiving "surprises" for twelve days, the cost per item had to kept low; the items also had to have some appeal to small children. Food was rejected because it is a primary reinforcer, and candy because it is unhealthy. Balloons were tried but discontinued because they were unsanitary, a distraction in the classroom, the children couldn't blow them up and the busdriver complained that she couldn't see behind her with balloons in the bus; colored straws and pipe cleaners were also a distraction and had little appeal. The best reinforcers were gummed stickers, stars and inked stamps. One child flatly refused them all.

Working with human beings always presents little surprises. The design called for twelve consecutive days of instruction. A four day week, major holidays, fieldtrips and parties, absences and broken busses all interfered with teaching and testing. The building was undergoing renovation by CETA workers who occasionally made so much noise that teaching was difficult if not impossible. For two days the research classroom was occupied and another room with its novel distractions had to be used.

Class schedules sometimes effected teaching and testing. Data on one child's retest had to be discarded because he had just awakened from a nap and was not fully alert; unfortunately he was not retested. When all ten groups were being seen it was difficult to coordinate research sessions with staggered nap times, meals, playground periods, arrivals and departures.

Finally, some children were registered in one name but answered to another, creating some confusion.

The Three Owls Reading Method worked well for many of the Head Start children on the first level in a very short period of time and many retained the associations and sounds after weeks with no reinforcement. Teachers reported hearing letters identified by the semantic associations from the primer. Had it been the intention to teach them to read The Three Owls would have been the method of choice for these children.

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APPENDIX A

POST INSTRUCTION SCORES AND ACEPT COMPARED BY TEACHERS

Post Instruction Scores

Teacher	Test Code	X	s.d.	p err	sem	Coeff	N
G	A-Post	23.3	12.01	8.10	4.0	.51	10
L	A-Post	29.83	8.35	5.63	3.73	.28	6
D	A-Post	24.6	12.28	8.28	4.09	.50	10
G	A-Re #1	17.2	12.13	8.18	6.07	.71	5
L	A-Re #1	20.67	10.67	7.20	4.77	.52	6
D	A-Re #1	21.0	10.45	7.05	3.70	.50	9
G	A-Re #2	14.67	9.66	6.51	3.41	.66	9
L	A-Re #2	19.2	9.58	6.46	4.79	.50	5
D	A-Re #2	18.4	8.86	5.98	2.95	.48	10
G	A-Re #3	12.1	7.54	5.08	2.51	.62	10
L	A-Re #3	18.0	8.69	5.86	4.35	.48	5
D	A-Re #3	15.8	8.35	5.63	2.78	.53	10
G	B-Post	28.38	7.48	5.05	2.83	.27	8
L	B-Post	33.57	9.29	6.27	3.79	.28	7
D	B-Post	30.75	7.50	5.06	2.83	.24	8
G	B-Re #1	20.88	6.96	4.69	2.63	.33	8
L	B-Re #1	24.71	9.14	6.17	3.73	.37	7
D	B-Re #1	24.57	9.14	6.17	3.73	.37	7
		ACEPT Total Scores					
G	A-ACEPT	18.1	8.96	6.05	2.99	.50	10
L	A-ACEPT	12.0	7.24	4.88	3.24	.60	6
D	A-ACEPT	18.9	8.26	5.57	2.76	.44	10
G	B-ACEPT	16.7	3.99	2.69	1.63	.24	7
L	B-ACEPT	12.5	5.83	3.94	2.06	.47	9
D	B-ACEPT	17.4	5.53	3.73	2.26	.32	7